

Abstract of the Disclosure

The present invention relates to fluorescent, radio-opaque and magnetic quantum nanoparticles, useful as multifunctional contrast agents or probes for *in vivo* bioimaging, and methods of their use. The invention provides for multifaceted bioimaging (*e.g.*, intra-arterial pre-operative brain mapping and broad based *in vivo* diagnostic imaging), including imaging of various cell types, such as stem cells.